

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date:

Region: Mooresville Regional Office
County: Cabarrus
NC Facility ID: 1300002
Inspector's Name: Tonisha Dawson
Date of Last Inspection: 06/22/2016
Compliance Code: 3 / Compliance - inspection

Facility Data Applicant (Facility's Name): WSACC - Rocky River Regional WWTP Facility Address: WSACC - Rocky River Regional WWTP 6400 Breezy Lane Concord, NC 28025 SIC: 4952 / Sewerage Systems NAICS: 22132 / Sewage Treatment Facilities Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			Permit Applicability (this application only) SIP: 02D .01204 NSPS: Subpart O NESHAP: Subpart ZZZZ PSD: N/A PSD Avoidance: N/A NC Toxics: N/A 112(r): N/A Other: 40 CFR Subpart LLL (Federally Enforceable Only)				
Contact Data			Application Data				
Facility Contact Chad VonCannon Assistant Engineering Director (704) 788-4164 6400 Breezy Lane Concord, NC 28025	Authorized Contact Timothy Kiser Engineering Director (704) 788-4164 PO Box 428 Concord, NC 28025	Technical Contact Chad VonCannon Assistant Engineering Director (704) 788-4164 6400 Breezy Lane Concord, NC 28025	Application Number: 1300002.14A Date Received: 03/14/2014 Application Type: Modification Application Schedule: TV-1st Time Existing Permit Data Existing Permit Number: 04475/R19 Existing Permit Issue Date: 02/05/2016 Existing Permit Expiration Date: 01/31/2024				
Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2013	24.38	27.25	6.45	85.94	1.18	0.6165	0.2414 [Lead & compounds]
Review Engineer: Lori Ann Phillips Review Engineer's Signature: _____ Date: _____			Comments / Recommendations: Issue: 04475/T20 Permit Issue Date: _____ Permit Expiration Date: _____				

1. Purpose of Application:

WSACC – Rocky River Regional WWTP submitted permit application 1300002.14A, which was received on March 14, 2014 at the Raleigh Central Office. This application is for the wastewater treatment plant located at 6400 Breezy Lane in Concord, Cabarrus County, NC and requests the change of the facility's status from a Synthetic Minor facility to a Title V facility due to the applicability of 40 CFR 62 Subpart LLL (Federal Plan Requirements for Sewage Sludge Incineration Units Constructed On or Before October 14, 2010). Subpart LLL requires an affected facility to submit a Title V permit

application by March 21, 2014 and to meet the sulfur dioxide (SO₂) emission limit prior to the compliance deadline of March 21, 2016. The facility was issued an updated State permit, revision R19 issued on February 5, 2016, for installation of a new, packed tower scrubber (ID No. CD-06) in order to meet the SO₂ limit requirement of Federal Plan Subpart LLL.

This permit application is to convert the existing State permit into a 1st Time Title V permit.

2. Facility Description:

The Water and Sewer Authority of Cabarrus County (WSACC) – Rocky River Regional Waste Water Treatment Plant is a waste water treatment plant (WWTP) that has an existing sewage sludge multiple hearth incinerator (SSI) (22.25 feet in diameter, with a maximum average permitted charging rate of 21,200 wet pounds per hour) fired by twelve No. 2 fuel oil/recycled No. 2 fuel oil-fired burners (18.8 million Btu per hour total heat input rating, ID No. ES-1). The facility is currently operating the existing permitted control devices installed on the SSI including a No. 2 fuel oil-fired afterburner (ID No. CD-3, 7.77 million Btu maximum burner rating), a conditioning system consisting of a spray quencher and two-tray impingement cooler (ID No. CD-4), a wet electrostatic precipitator (ID No. CD-2, 2,439 square feet of collector plate area), and the new packed tower scrubber (ID No. CD-06) for compliance purposes.

3. Application Chronology:

March 14, 2014	Received 1 st Time Title V Permit application at RCO. The application included the following: authorized signature, all required forms and a check for \$904. The application was considered complete at that time.
February 5, 2016	RCO issued permit revision R19 that included the new packed tower scrubber.
October 6, 2016	Sent email to Keith McCulloch, GEL Engineering of NC, and Chad VonCannon, Assistant Engineering Director at WSACC, requesting information pertaining to the previously submitted BACT analysis for a proposed waste heat recovery boiler and steam turbine generator, PSD avoidance limits, and the CO oxidation catalyst listed on the current permit.
October 17, 2016	Received email from Tim Kiser, Engineering Director at WSACC, requesting a conference call.
October 18, 2016	Had conference call with Tim Kiser and Chad VonCannon to discuss the history of the waste heat recovery steam generator, PSD avoidance limits, and the CO oxidation catalyst. Details regarding the history (start-up, operation, and decommissioning) of the waste heat recovery system are provided in a separate section

below. The facility contacts said they would confirm the PSD avoidance limits and get back to me. Removal of the CO oxidation catalyst from the control device list on the permit was requested.

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| October 25, 2016 | Received an email from Chad VonCannon with a letter attachment confirming the decommissioning of the heat recovery steam generator in May of 2016. Therefore, the BACT analysis of this equipment is no longer necessitated and the BACT placeholder stipulation can be removed from the permit. The email also confirmed that the facility would not like to make any changes to its' current PSD avoidance stipulation, which includes avoidance language for CO, SO ₂ , and PM ₁₀ . Additionally, the email confirms that the CO oxidation catalyst was never installed and can be removed from the permit. |
| October 27, 2016 | Emailed Chad VonCannon and requested that he resend the prior email and copy the authorized contact, Tim Kiser. |
| November 2, 2016 | Emailed Keith McCulloch and requested a copy of the most recent performance testing in order to update the operating parameters in the 02Q .1204 and NSPS Subpart O stipulations. |
| November 3, 2016 | Received a pdf via email of the March 15-16, 2016 performance testing from Keith McCulloch. |
| November 15, 2016 | Sent draft permit and permit review to Chad VonCannon and Keith McCulloch for review. |
| December 1, 2016 | Received comments on the draft permit from the facility. |
| December 2, 2016 | Emailed Chad VonCannon and Keith McCulloch with the incorporated changes to the draft permit. |
| December 7, 2016 | Received phone call from Chad VonCannon. We discussed the CO CEMS operation at the facility. The facility would like to have the ability to use AP-42 emissions factors and performance testing to show compliance with the PSD Avoidance limitation of 250 tons CO per year. Previously, the facility was required to operate CO CEMS to demonstrate compliance with the Synthetic Minor permit limits; however, the permit stipulations associated with CO CEMS have been removed from the permit with the update to a Title V permit. The facility would like the ability to remove their CO CEMS capability, which would save them a considerable amount in operating costs, annually. Additionally, we discussed the need to determine with reporting dates are correct for reporting requirements. The previous permit used February 19 th for annual |

reporting requirements due to 40 CFR Part 530 Subpart E specifically naming this date for reporting. I am checking to make sure that this is correct for the new permit.

December 9, 2016 Emailed an updated draft permit to Chad VonCannon. Also, it was determined that the facility could remove their CO CEMS as long as both the Federal (40 CFR Part 503 Subpart E, Federal Plan LLL, etc) and State (15A NCAC 02D .1204) Rules do not specifically require CO CEMS. According to the rules, the tracking of hydrocarbons via CEMS is sufficient.

4. New Equipment/Changes in Emissions and Regulatory Review:

New Equipment: There is no new equipment associated with this permit application.

Change in Emissions: There are no changes in emissions associated with this permit application. The facility was issued an updated permit in February of 2016 that included the new packed tower scrubber system in order to maintain compliance with the emissions limits set forth in Federal Plan Subpart LLL.

Regulatory Review: There are no major changes to the regulations that affect Rocky River Regional WWTP. Since the facility will no longer have a Synthetic Minor permit, the Synthetic Minor permit stipulation has been removed. All of the limitations, recordkeeping, and reporting from the Synthetic Minor stipulation will no longer apply now that the facility will have a Title V permit.

The following regulations apply to the following equipment. Compliance with these regulations has previously been shown; therefore, the details of each regulation will not be discussed here. Only changes/additions will be discussed in this review. If needed, more information can be found in previous permit reviews.

A. Multiple hearth sewage sludge incinerator (ES-1): 02D .0516, 02D .0521, 02D .0524 NSPS Subpart O, 02D .1110 Subparts C & E, 02D .1204, 02Q .0317 (PSD Avoidance), 02Q .0508, 40 CFR Part 503 Subpart E, and 40 CFR Part 62 Subpart LLL (Federally Enforceable Only).

02D .0516 – Sulfur Dioxide Emissions from Combustion Sources – no changes

02D .0521 – Control of Visible Emissions – no changes

02D .0524 – NSPS Subpart O – Updated the operational parameters (minimum liquid injection rate and minimum pressure drop) for the packed tower scrubber based on the results of performance testing conducted on March 15-16, 2016. The new minimum liquid injection rate is 155 gallons per minute (previously was 200 gallons per minute) and the established pressure drop across the packed bed portion of the scrubber is 0.35 inches of water column.

02D .1100 – NSPS Subparts C & E – no changes

02D .1204 – Sewage Sludge and Sludge Incinerators – updated the operational parameters as discussed above for NSPS Subpart O.

02Q .0317 – PSD Avoidance for PM₁₀, CO, and SO₂ – no changes. The facility has requested to keep this avoidance condition in their permit. They shall continue to maintain records and submit required semi-annual reports. Compliance is expected.

02Q .0508 – Incineration of Off-site Sewage Sludge – no changes

40 CFR Part 503, Subpart E – no changes

40 CFR 62 Subpart LLL – Federal Plan Requirements for Sewage Sludge Incineration – Added the detailed version of this permit stipulation to the permit. This rule is currently federally-enforceable only and the facility shall continue to maintain records and submit any required reports to EPA until NC has an approved State Plan in place. ***

*** A note regarding 40 CFR 62 Subpart LLL. An update to the existing Emissions Guidelines for Subpart LLL was issued in the Federal Register on April 29, 2016. The action finalized the federal plan for existing sewage sludge incineration units. The action implements the emissions guidelines adopted on March 21, 2011 in states that do not have an approved state plan in place by the effective date. The effective date of Federal Rule is May 31, 2016 and North Carolina does not have a State Plan in place at the time of this permit issuance. The permittee shall be responsible for maintaining compliance with all dates, limits, testing, recordkeeping, and reporting found in the plan.

- B. One 2,000 kilowatt diesel fuel-fired emergency generator (20.16 million Btu per hour maximum heat input): 02D .0516, 02D .0521, 02D .1111 Subpart ZZZZ, and 02Q .0317 (PSD Avoidance).

02D .0516 – Sulfur Dioxide Emissions from Combustion Sources – no changes

02D .0521 – Control of Visible Emissions – no changes

02D .1111 – MACT for Existing Emergency Generators at Area Sources of HAPs – Added the detailed permit stipulation to the permit to replace the existing Subpart ZZZZ placeholder. For the emergency engine, ES-G-1, the facility is required to perform regular engine maintenance, install a non-resettable hour meter if one is not already installed, keep records of all maintenance, malfunctions, hours of operation, and type of operation (emergency versus non-emergency), and submit a semi-annual report of monitoring and recordkeeping activities. Other details pertaining to this permit stipulation can be found in the permit.

02Q .0317 – PSD Avoidance for PM10, CO, and SO2 – no changes. The facility has requested to keep this avoidance condition in their permit. They shall continue to maintain records and submit required semi-annual reports. Compliance is expected.

5. Changes to Permit:

- Updated all dates and permit revision numbers. Converted the permit format from a State permit to a Title V permit.
- Removed the Synthetic Minor permit stipulation and all associated operation restrictions, recordkeeping, and reporting requirements.
- Removed the 02D .0605 testing requirement, as well as the CERMS-related stipulations, as these permit conditions were originally included in the permit to maintain compliance with the Synthetic Minor limit of 100 tons/year for CO and the proposed NSPS Subpart MMMM (now promulgated NSPS Subpart LLL). CO testing for the SSI is now covered in NSPS Subpart LLL.
- Updated the 02D .1111 Subpart ZZZZ permit placeholder to the most current permit stipulation.
- Removed 02D .1806 odor control requirements as wastewater treatment plants are exempt from this rule.
- Removed 02D .1100 and 2Q .0317 toxics avoidance, as the incinerator is subject to Part 61 NESHAP and this exempts it from air toxics permitting in accordance with 15A NCAC 02Q .0702(a)(27)(A).
- Removed the CO oxidation catalyst (Control Device ID No. 5) from the equipment list.
- Removed the BACT SB3 permit stipulation, as this pertained to the waste heat recovery generation system that began operation at the facility in December 2014 and was decommissioned due to failure of the system in May 2016.
- Added “ES” or “CD” to the beginning of emission source and control device ID numbers for consistency.
- Replaced the Federal Plan Subpart LLL placeholder with the detailed permit stipulation.
- Updated 15A NCAC 02D .1204 to add operational parameters for combustion temperature in the incinerator and pressure drop of the packed tower scrubber as determined through performance testing conducted on March 15-16, 2016.
- Changed the emission source description for ES-G-1 to read “No. 2 fuel oil-fired” instead of “Diesel-fired” to maintain consistency throughout DAQ permits.
- Updated the control device description for CD-06 to show the minimum liquid injection rate of 155 gallons per minute as established through performance testing conducted on March 15-16, 2016.

6. NSPS, NESHAPS, MACT, PSD, and Attainment Status:

This facility is a PSD minor source located in Cabarrus County, which is in attainment for all criteria pollutants.

WSACC Rocky River Regional WWTP is subject to the following NSPS, NESHAPS, and MACT regulations. Compliance with all regulations is currently indicated.

- NSPS Subpart O – Standards of Performance for Sewage Sludge Treatment Plants (ES-1)
- NESHAPS Subparts C & E – National Emissions Standards for Beryllium and Mercury (ES-1)
- MACT Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (ES-G-1)

7. Facility Wide Air Toxics:

The 02D .1100 requirement for toxics shall be removed from the facility's permit. Because the facility's incinerator (ES-1) is subject to Part 61 NESHAP, it is exempt from air toxics permitting in accordance with 02Q .0702(a)(27)(A).

The 02Q .0317 condition Vendor Supplied Recycled No. 2 Fuel Oil Requirements for avoiding the applicability of 02Q .0700 shall also be removed as the facility is exempt from toxics permitting as previously mentioned.

In accordance with previous permit reviews regarding air toxics and previous modeling that had been approved by Henry Manfrediz, Meteorologist in the Air Quality Analysis Branch, through a memorandum dated March 3, 1997, no unacceptable risk to human health is suggested. No further air toxics evaluation is required at this time.

8. Compliance Status:

The facility was in compliance during the most recent inspection conducted on June 22, 2016 by Tonisha Dawson. The facility was issued a compliance NOD on March 21, 2016 for excessive CEMS monitor downtime during the fourth quarter of 2015.

9. Other Considerations:

- A P.E. seal is NOT required for this application.
- A zoning consistency determination is NOT required for this application.
- This facility is not subject to the 112(r) program as it does not store any of the listed chemicals in quantities above the program thresholds.

10. Public Notice Review:

A 30-day public notice and 45-day EPA review period is required for this permit renewal.

The 30-day public notice period was from XX through XX.

The EPA 45-day review period was from XX through XX.

11. Conclusions, Comments, and Recommendations:

This air permit application for the WSACC – Rocky River Regional WWTP, located at 6400 Breezy Lane in Concord, NC, has been reviewed by DAQ to determine compliance with all procedures and requirements. The Mooresville Regional Office has made comments on the draft permit. Continued compliance with this air permit is expected. Recommend issuance of revised air permit No. 04475T20.